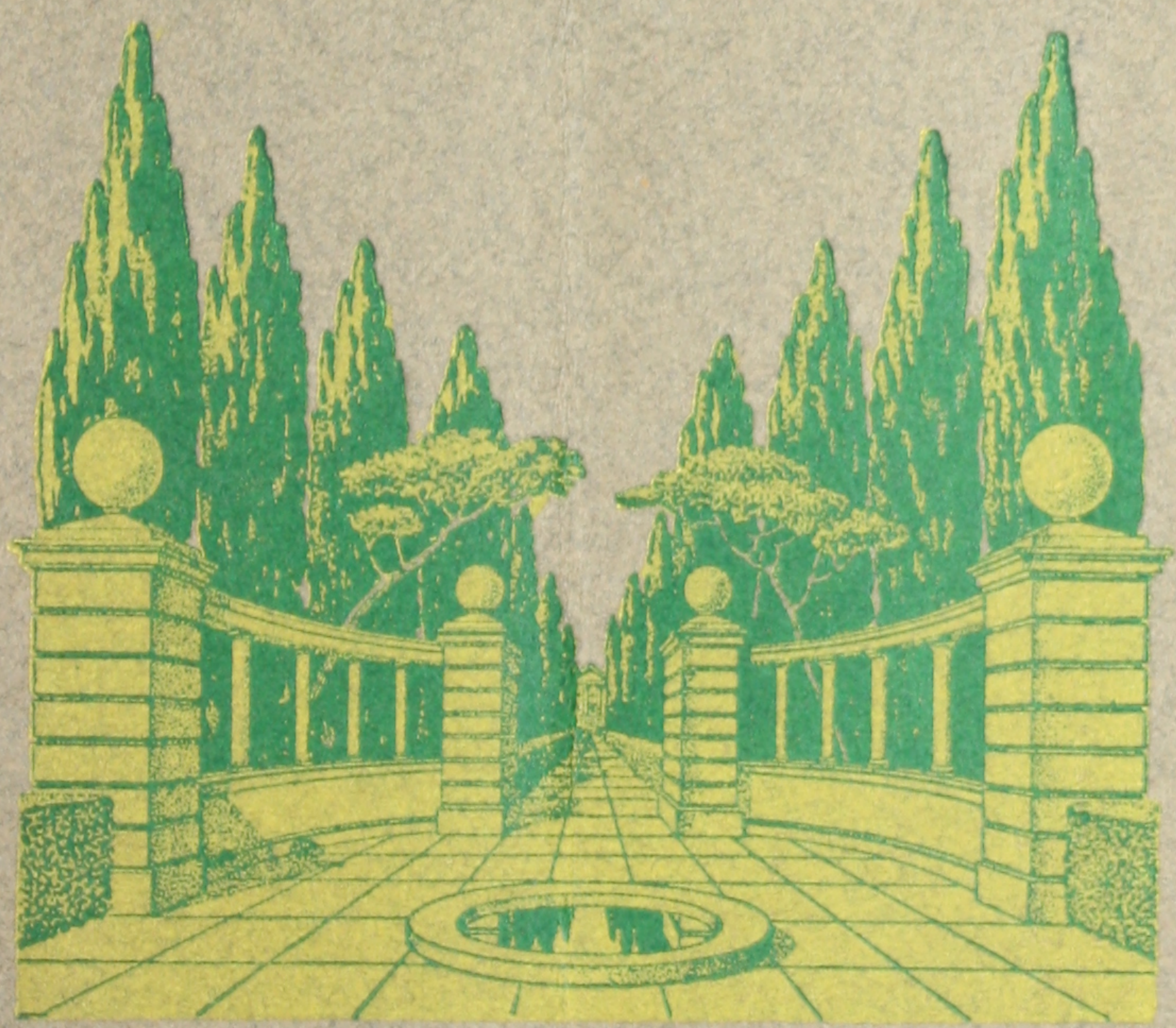


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SOUTHWESTERN PORTLAND CEMENT CO.



LIBRARY of
THE
FRANKLIN
INSTITUTE

SOUTHWESTERN
PORTLAND CEMENT CO.

EL PASO, TEXAS

INCORPORATED UNDER THE LAWS OF WEST VIRGINIA.

CAPITALIZATION:

\$1,100,000.00 Preferred; \$1,100,000.00 Common.

DEPOSITORY:

FIRST NATIONAL BANK, EL PASO, TEXAS

MAIN OFFICE:

EL PASO, TEXAS.

Southwestern Portland Cement Co.

EL PASO, TEXAS

OFFICERS

C. LEONARDT, President
FELIX MARTINEZ, Vice Pres. EDWARD L. DOHENY, Vice Pres.
CHAS. BOETTCHER, Vice Pres. C. A. CANFIELD, Vice Pres.
O. J. BINFORD, Secretary
JAMES G. McNARY, Treasurer
A. COURCHESNE, Manager

FIRST NATIONAL BANK OF EL PASO, Depository

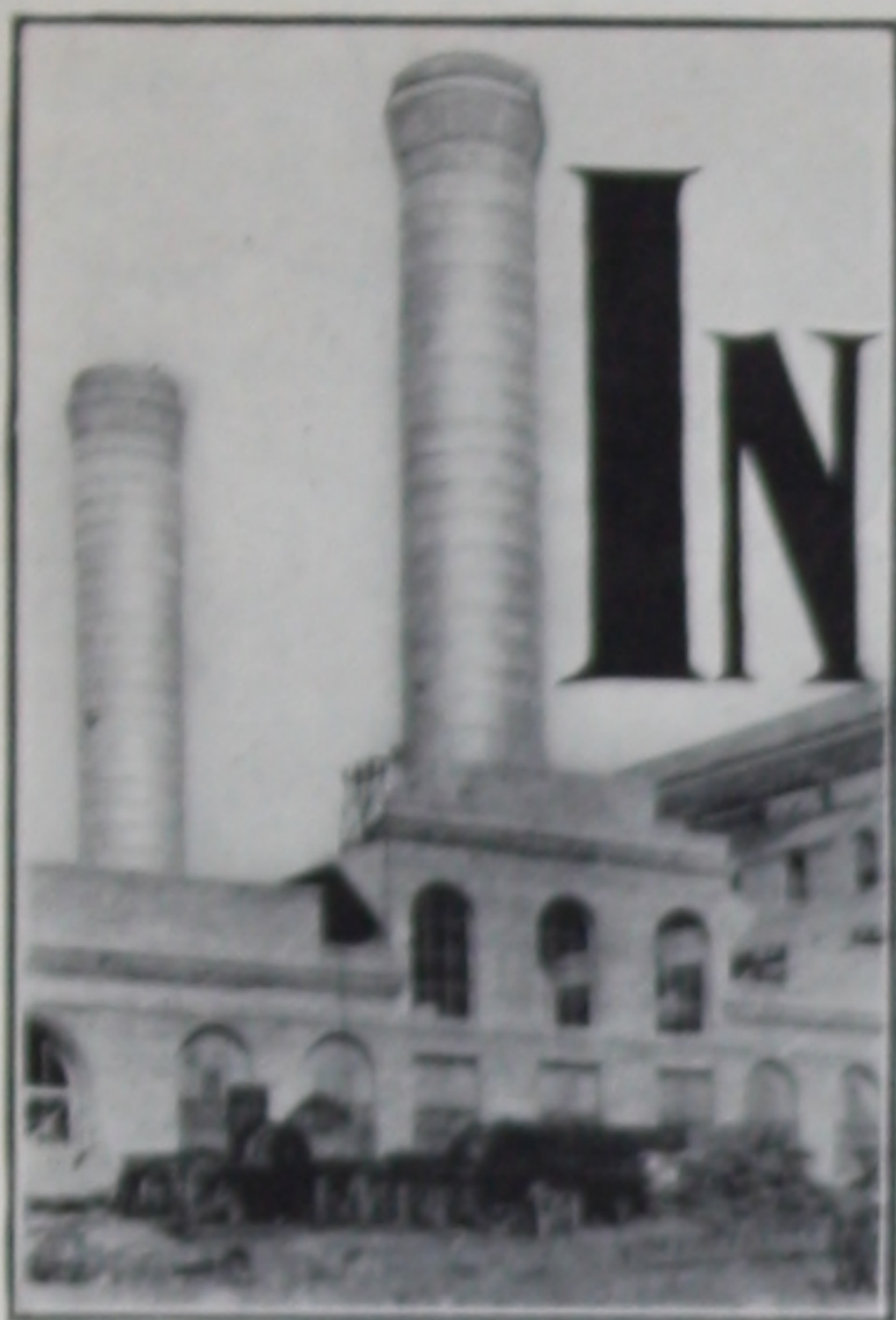
DIRECTORS

C. LEONARDT, Los Angeles, California	CHARLES BOETTCHER, Denver, Colorado
A. COURCHESNE, El Paso, Texas	JAMES D. SCHUYLER, Los Angeles, California
FELIX MARTINEZ, El Paso, Texas	O. J. BINFORD, El Paso, Texas
AMAN MOORE, Los Angeles, California	C. C. MERRILL, Los Angeles, California
C. A. CANFIELD, Los Angeles, California	C. A. FELLOWS, Los Angeles, California
E. L. DOHENY, Los Angeles, California	SOLOMON LUNA, Albuquerque, New Mex.
WHITNEY NEWTON, Denver, Colorado	JOHN M. RAYNOLDS, El Paso, Texas
J. S. SCHIRM, Los Angeles, California	



Growth of Industry.

Reinforced
Concrete
Power Plant
of Pacific
Light &
Power Co.,
at Redondo,
California.
26,000 barrels
cement used
in
construction.
C. Leonardt,
Contractor.



CONSIDERING the manufacture of Portland cement in El Paso a brief review of the growth of the industry in the recent past will be in order. In 1880 the industry attracted little attention, and the use of the product was confined almost entirely to masonry built in contact with water. For the next fifteen years the growth was constant but slow. In 1895 the production was only 990,324 barrels. About that time cement became generally recognized as a superior sidewalk and paving material, which coupled with improved

methods of manufacture, gave a great impetus to the industry. Since that time the cost of production has been greatly decreased and new uses have been so varied that all the great industries and the preparations for the public defenses now depend on the production of the cement mills for a large and important part of their building material. We need mention here only the development of reinforced fire-proof monolithic construction of buildings of all kinds, and its use in the great irrigation projects. The best idea of the growth of the industry may be gained from the reports of the Department of the Interior, from which the following figures have been taken:

Year	Quantity in Bbls.
1895.....	990,324
1896.....	1,534,023
1897.....	2,677,775
1898.....	3,692,284
1899.....	5,652,266
1900.....	8,482,020
1901.....	12,711,225
1902.....	17,230,644
1903.....	22,342,973
1904.....	26,505,881
1905.....	36,038,012
1906.....	46,463,424
1907.....	48,785,390



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During this period of rapid growth the demand has been greater than the supply, and the market value has been kept up. In addition to the domestic production large quantities have been imported. The growing scarcity of lumber and the advancing prices of structural steel made the general adoption of some other kind of building material imperative. This condition together with the time and fire resisting qualities of cement construction, made its manufacture one of the greatest industries of the world, and PORTLAND CEMENT a structural material second to none.

PRESENT CONDITIONS.

It must not be expected, however, that the rate of growth of the last decade can be maintained indefinitely. A second glance at the production of the last two years will make it apparent that the great demand has at last been overtaken by the increasing production. If to these figures we had added the production of other hydraulic cements, this point would have been still more clear, as the increased production of Portland Cement was largely counter-balanced by a decreased production of natural rock cement.

Up to the present time fifty per cent of the production of the United States has been made from the so-called cement rock in the Lehigh Valley district.

As cement is a heavy material it becomes manifestly impossible to ship any distance and sell at prices that could not be greatly reduced were the cement manufactured locally.

From time to time new fields have been discovered, and if large, were sure to be followed by over-production in that particular locality. Such conditions now prevail in Pennsylvania, Michigan and the Kansas fields. The demand of all industries and all localities has made necessary the localization of the industry.

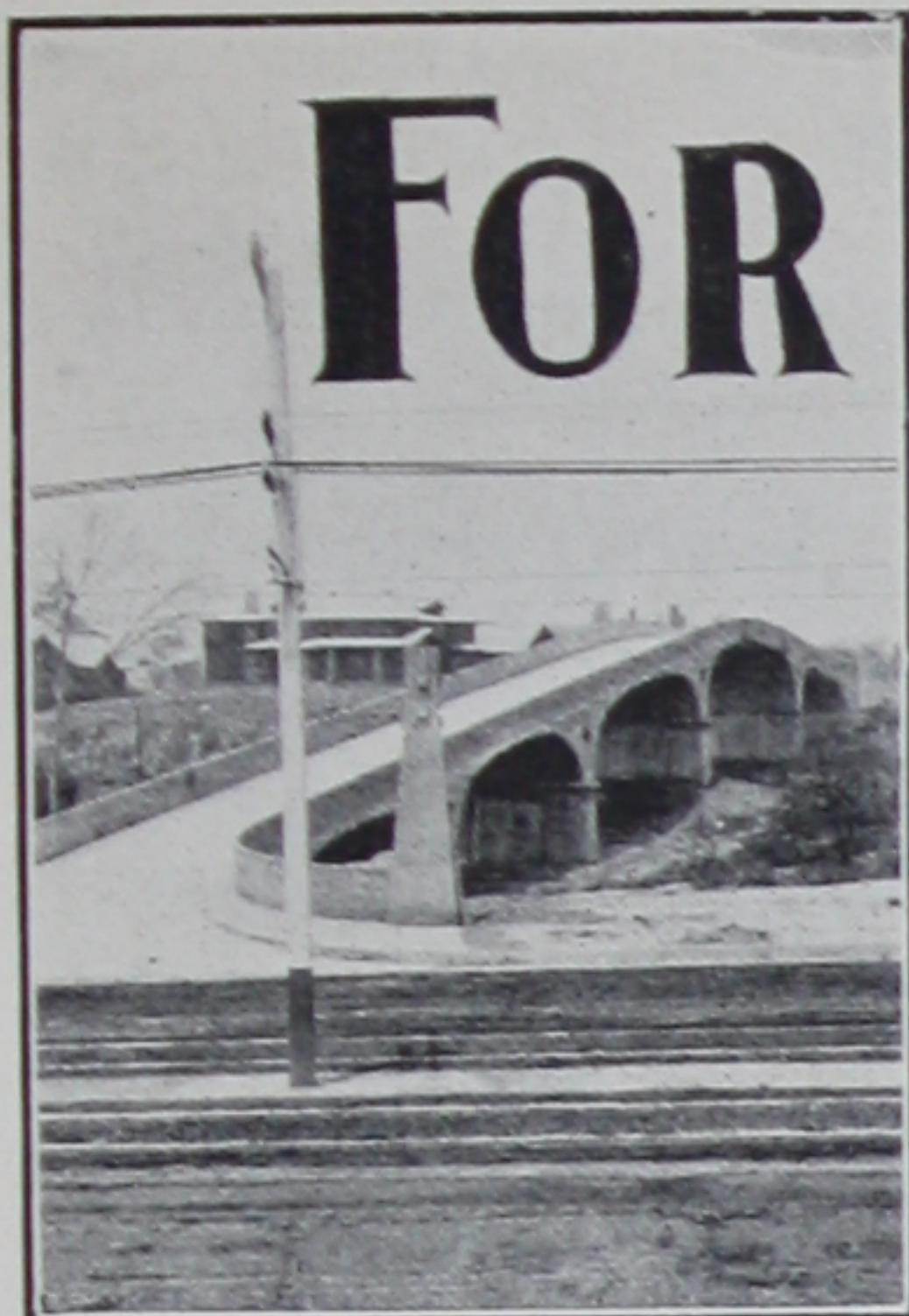


U. S. GRANT HOTEL, SAN DIEGO, CALIFORNIA.

Harrison Albright, architect. C. Leonardt, contractor. All concrete construction. Over-all dimensions, 200 x 200 feet. Ballroom on ninth floor carried by girders, clear span, 52 feet.

SOUTHWEST.

Reinforced
Concrete
Bridge at
Pasadena,
California.
C. Leonardt,
Contractor.



SOME TIME it has been known by well posted cement men that the Southwestern section of the United States, including West Texas and the larger part of New Mexico and Arizona, would furnish a market for a modern cement plant, and a careful systematic search for suitable material was commenced in April, 1906, by Mr. Aman Moore and our President, Mr. C. Leonardt. After several months of careful investigation their attention was called to El Paso by the publication of a notice of the organization of the El Paso Portland Cement Company. The Courchesne property, which was finally taken over, and the vicinity of El Paso were carefully examined. The search was continued, however, until it was demonstrated that there was no other property in this section which had both suitable material and a location that would make the building of a cement plant a success.

OUR PROPERTY.

Before the examination of the property by the organizers of the present company, Mr. A. Courchesne had had his property examined by local chemists and cement experts connected with the industry in the East. In every case a favorable report was made. Five expert chemists made examinations for Mr. Moore and Mr. Leonardt, previous to the organization of The Southwestern Portland Cement Company, and their work has been checked by recognized cement authorities. Cement made from the material by Smith and Emery of San Francisco, California, was pronounced by them to be the equal of the best. The following tests and extract are from their report:

ANALYSIS.

	SiO ₂	Fe ₂ O ₃	Al ₂ O ₃	CaO	MgO	Loss on Ig
Limestone—	5.01	1.13	1.20	50.47	.99	41.20
Shale—	48.85	5.47	13.96	14.53	1.87	15.24
Cement Rock—	22.28	8.68		37.23	.70	30.79
	22.89	9.14		36.54	.73	30.86
Cement Clinker—	23.52	3.06	7.24	64.21	2.07	.27

TENSILE STRENGTH.

Average of Five Samples.

One Day	Seven Days	Fourteen Days	Twenty-eight Days
341 lb	732 lb	858 lb	980 lb

We consider these materials well suited for the manufacture of a first class Portland Cement.

The mixture makes a cement which behaves well in the kiln, is sound twenty-four hours after burning, and has a high tensile strength with consistent gain.

(Signed) SMITH, EMERY AND COMPANY,
Chemists and Chemical Engineers,
Bureau of Inspection and Tests.

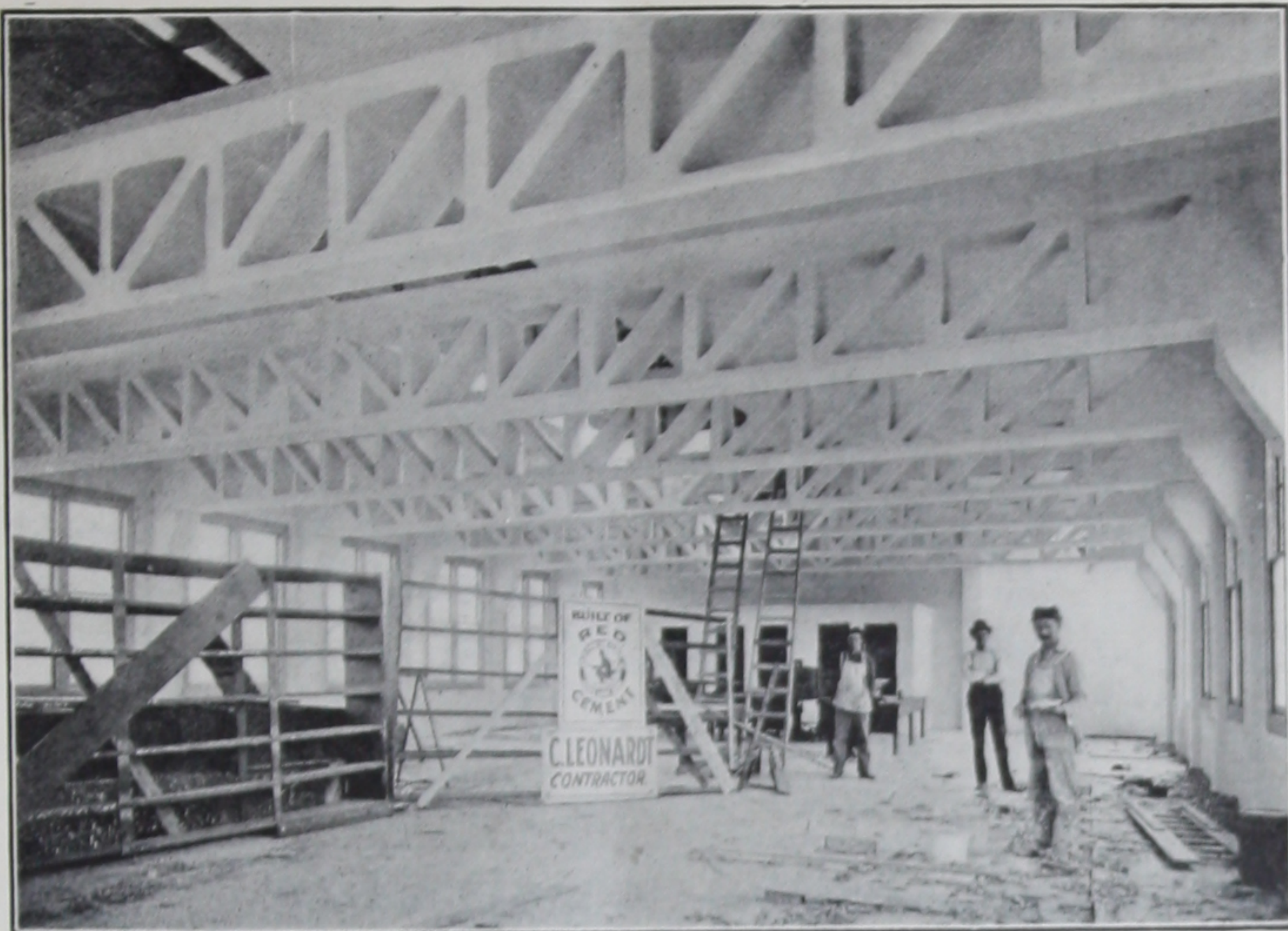
Since the organization a temporary laboratory with complete crushing machinery and rotary kiln has been installed and practical tests of the various materials are being made. The material consists of large deposits of argillaceous, easily broken limestone, equal in chemical composition and physical characteristics to the famous Lehigh Valley Cement Rock but lower in magnesia. There are equally large deposits of high grade limestone and calcareous shales so situated that they can be delivered to the crushers at the least possible expense.

The known quantity is sufficient to warrant the building of a 6,000 barrel a day plant at once.

The property consists of 900 acres of land just north of the City of El Paso, bordered on the west by the Rio Grande, furnishes an excellent plant site, and is crossed by three trunk lines of railroad. The property has been purchased for \$100,000 in cash and \$200,000 in stock, a low price considering its location and the character and extent of the material and the fact that it is the only cement deposit in the district large enough to warrant the building of a plant. The owners of the property have shown their faith in the enterprise by accepting stock in place of cash, dollar for dollar.

ORGANIZATION.

THE SOUTHWESTERN PORTLAND CEMENT COMPANY is incorporated under the laws of the State of West Virginia for \$2,200,000. There are 11,000 shares of Preferred Eight Per Cent Cumulative Stock, and 11,000 shares of Common Stock. The preferred stock will not be sold less than par and to the purchaser will be issued an equal amount of common stock. There is no bond issue, and no common stock issued as a promotion fund. Every dollar invested by the stock holders will go directly into the business.



INTERIOR OF C. LEONARDT'S WAREHOUSE.

The reinforced concrete girders with clear span of 45 feet were molded on the ground and raised into position the same as steel girders.

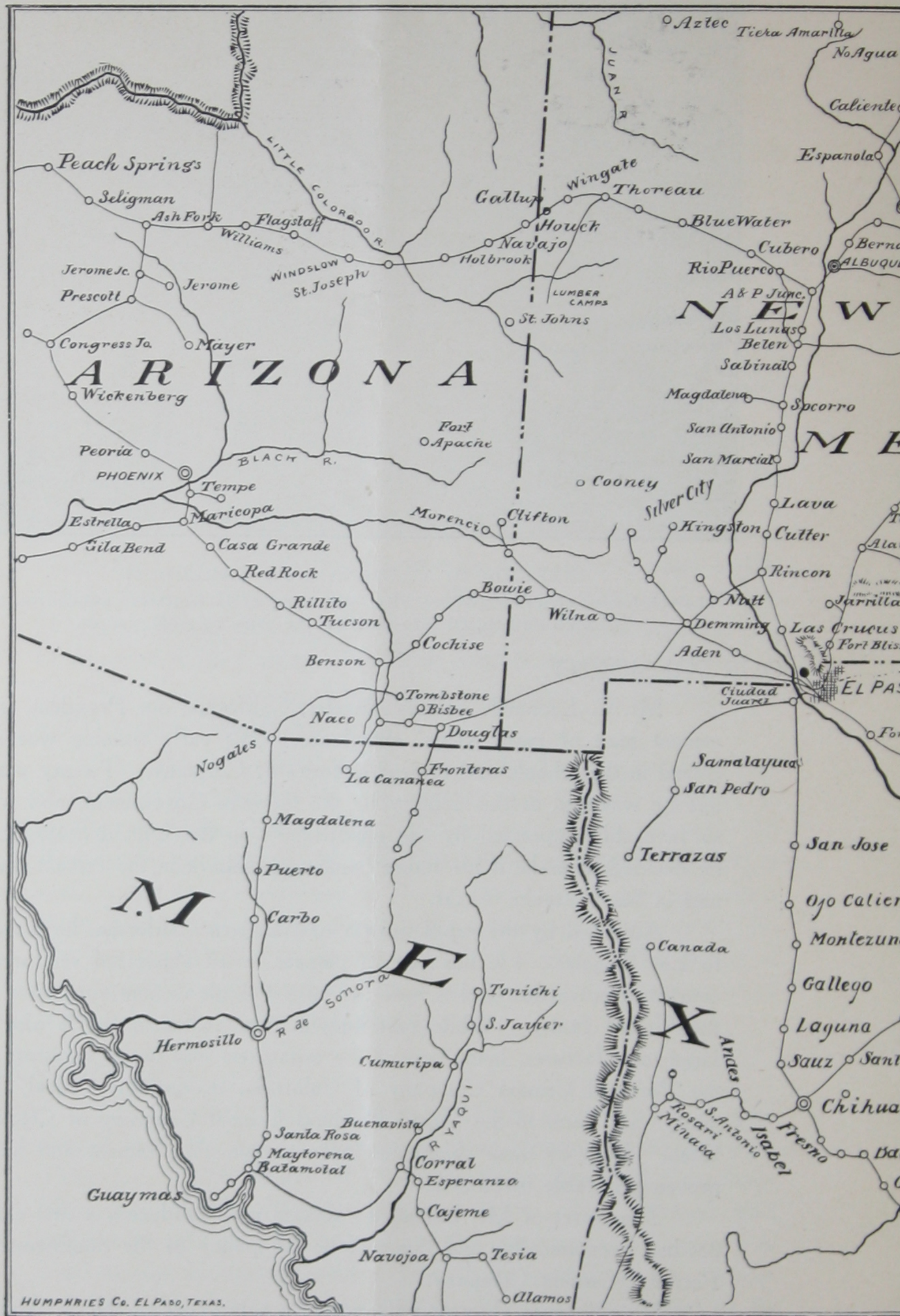
OUR PRESIDENT.

Mr. C. Leonardt, of Los Angeles, California, our President, is a cement man of many years' experience. His early training was received in the schools and cement factories of Germany. Twenty years ago he was sent to this country by the German Government, and was so favorably impressed by the opportunities in the United States that he decided to make it his future home and embark in the cement business in San Antonio, Texas.

Attracted by the rapid growth of Southern California, he moved to Los Angeles. He has been a pioneer in all classes of reinforced concrete construction and is now the largest single cement contractor in the United States. While best known as a contractor he is also a large manufacturer, being one of the organizers and heavy investors in the Portland Cement Company of Colorado, making the "Ideal Cement," and later in the Union Portland Cement Company of Ogden, Utah. Both of these companies make a high class cement and have proven profitable investments.

The secret of Mr. Leonardt's success is in producing a first class product economically, and this will be the policy of the Southwestern Portland Cement Company.

No officer or director will receive a salary except the Secretary, who will spend his entire time in the service of the company.



MAP SHOWING TERRITORY TO BE SUPPLIED



BY A CEMENT PLANT OPERATING IN EL PASO.



INTERIOR VIEW SANTA FE FREIGHT DEPOT, LOS ANGELES, CAL.,
SHOWING TEST LOAD.

OUR ENGINEERS.

Mr. Aman Moore was the first of the practical cement manufacturers to see the possibilities of the Southwestern field, and it was due to him that the investigation which led to the organization of the present company was carried to a successful completion. Mr. Moore entered the cement industry in Ohio, and was promoted step by step. He became the successful superintendent of the Buckeye Plant when 200 barrels a day was considered a large output. He was associated with Mr. Leonardt and others in the Portland Cement Company of Colorado, and was for five years its manager. He was also instrumental in the organization of the Union Portland Cement Company of Ogden, the management of which he resigned in August of last year to become President of the Cement Engineering Company of Los Angeles. Mr. Moore is one of the best posted cement manufacturers in the West and with his corps of engineers designed and will superintend the construction of the plant.

PLANT.

Plans for the factory have been accepted by the building committee which are modern in every detail. All machines will be independently driven by electricity generated at a central plant. The tracks and buildings together will cover eleven acres. All buildings will be of steel and concrete, making all parts solid and fire-proof.

Special features are the 150-foot kilns and modern pulverizing machines which will make possible the production of a fine, high sand carrying cement with a consumption of fuel and power about 20% less than the usual practice, and a system of storage and blending bins which

are believed to be in advance of any now in use. An absolutely uniform quality can be maintained as both the lime content and silica alumina ratio can be controlled to the fraction of one per cent.

COST OF PLANT.

The plant as designed is to consist of two units with a rated daily capacity of 750 barrels each. It will be built by the company at actual cost which was estimated in August last to be \$750,000. Owing to the great reduction in the price of labor, structural material and machinery since that time a saving of from \$50,000 to \$75,000 is expected. An amount of stock equal to the saving can thus be retained in the Company's Treasury.

Additional units can be built as the demands of the market require up to a daily capacity of 6,000 barrels without interfering with the part already in operation. The cost of units so added will not exceed 50% of the cost of each initial unit.

In addition to the cost of plant and property \$100,000 will be required for working capital.

COST OF PRODUCTION.

The high location of the quarries, together with the dry climate, will insure ideal working conditions without any cost for drainage, and the raw material can be delivered at the mill almost free from moisture.

An abundant supply of slack coal, ideal in composition for cement manufacture, can be obtained from the mines of New Mexico at a low cost.

Efficient Mexican labor can be had in abundant quantity and free from strikes at an average price of \$1.00 per day.

With material and mill as described, under experienced and conservative management, working in perfect climatic and labor conditions, the cost will not exceed 75c per barrel after allowing for cost of sales and deterioration.

EL PASO INTERESTS.

Thus far the greater part of the money has been furnished by the business associates of Mr. Leonardt and Mr. Moore in Los Angeles, and Colorado. The Southwestern Portland Cement Company is, however, an El Paso enterprise, and its greatest benefit will be to the territory supplied by it. It is for the best interests of both that territory and the Company that the dividends made by the sale of cement should be retained at home for the development of the vast natural resources, and it is therefore, highly advisable that at least one-half of the stock of the Company should be held by residents in the home market. The enterprise will bring in the neighborhood of \$800,000 annually into El Paso, and naturally that city will receive a large part of the benefits arising from the manufacture and also a large part of the agricultural development and increased building made possible by lessening the cost of so staple a material.

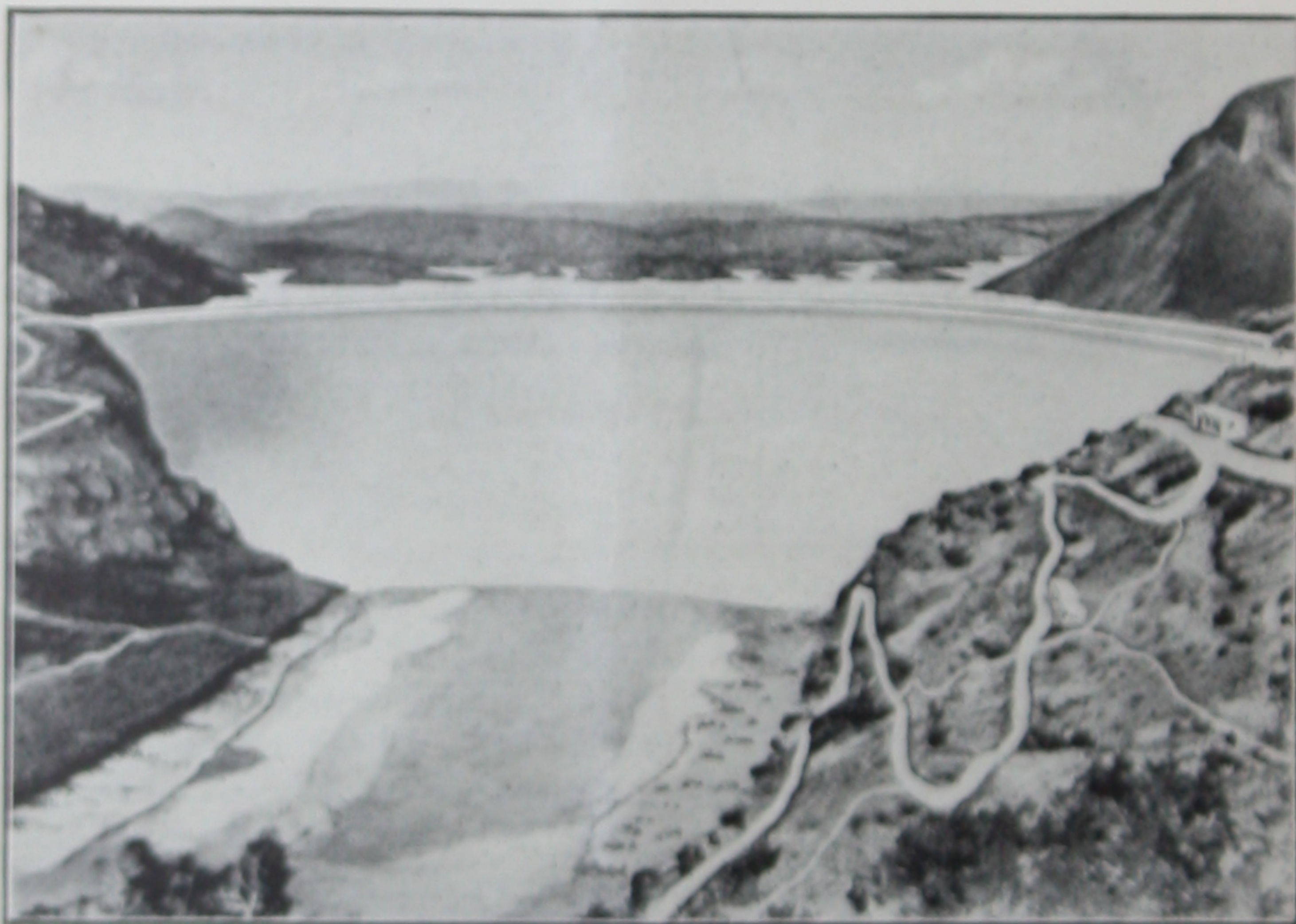
OUTLOOK AND MARKET.

The present supply of El Paso comes from eastern Texas, Colorado, Kansas and the Lehigh Valley district. We have an absolute control of the market by reason of the shorter haul, and lower freight rates over all of the territories of New Mexico and Arizona, with the exception of the one town Raton, New Mexico, a large part of Western Texas and a large and growing market in Northern Mexico. This territory has used annually for the last several years more cement than the initial output of our factory at prices averaging from \$3.50 to \$4.00 a barrel.

The Government is now ready to contract for 300,000 barrels for the Engle Dam, and the total amount on this project will exceed 400,000 barrels. Experience has proven that the cement used in an impounding dam has been but a small part of the amount necessary in later development of the country brought under cultivation.

Projects of equal magnitude are planned in the State of Chihuahua, which will naturally be in our territory. Many smaller dams are now planned by private enterprise to control the smaller streams for power and irrigation.

El Paso is the center of a wealthy mining section which spends annually several million dollars for mine timber. Concrete supports are now proven to be a practical substitute and have supplanted timber to a very large extent in many of the coal mines in the North Eastern



VIEW OF ELEPHANT BUTTE DAM, NEAR ENGLE, NEW MEXICO, AS IT WILL APPEAR WHEN COMPLETED.

Under construction by the U. S. Reclamation Service. Length at crest, 1200 feet; length at sand level, 400 feet; thickness at bed rock, 170 feet; thickness at crest, 20 feet; height from bed rock to crest, 275 feet. Lake impounded is 40 miles long, from two miles to six miles wide and 175 feet deep at the dam. It will require 410,000 cubic yards of concrete.

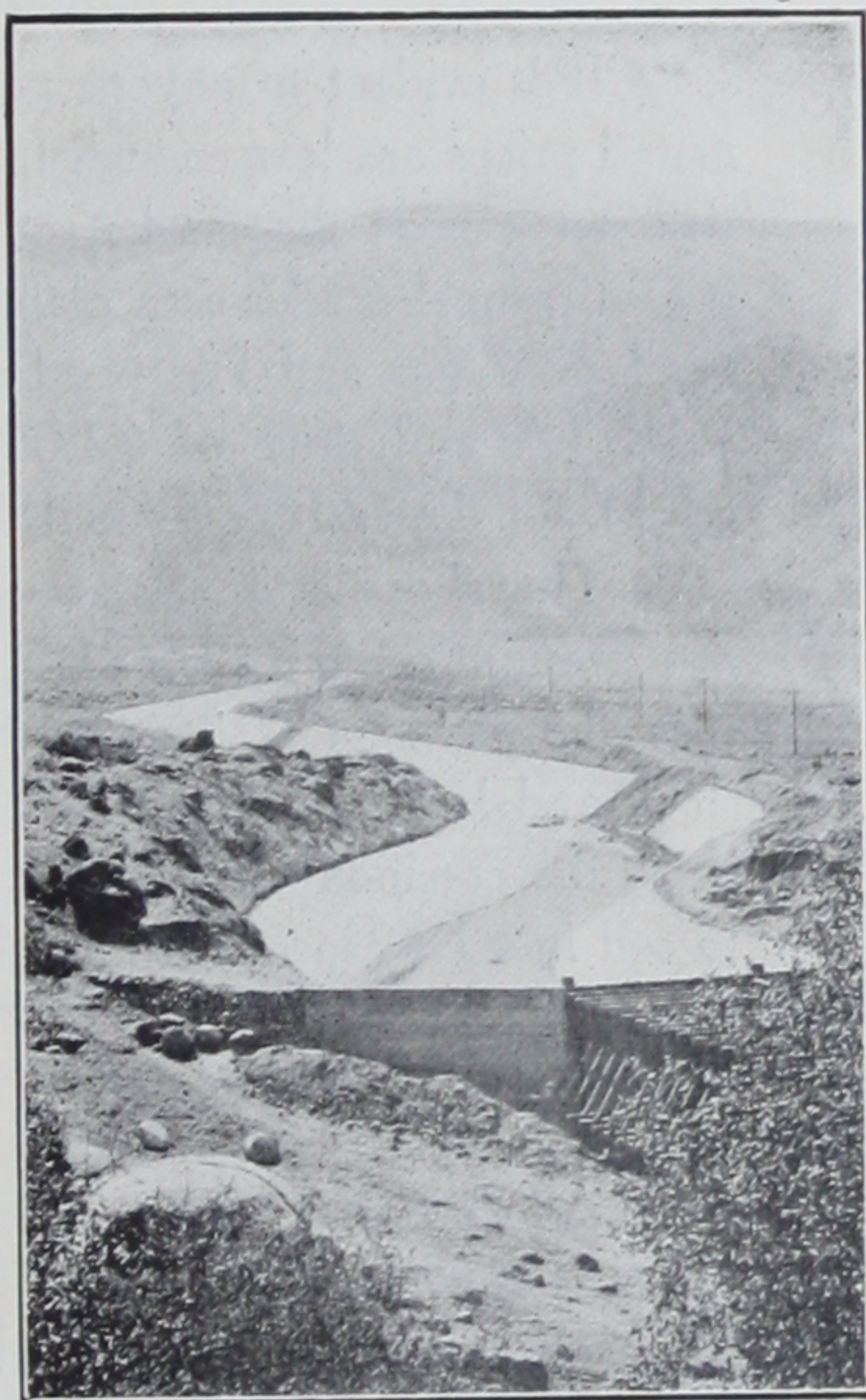
States. They offer the great advantage of being fire and rot proof and lessen to an important degree the main causes of mine accidents, and it is confidently believed that the introduction of this branch of the cement industry in this section only awaits local production and the consequent reduction in price.

FREIGHT DIFFERENTIAL.

We have an advantage of 19 cents per barrel over Colorado, and 65 cents over Kansas plants to Las Vegas, Santa Fe and Lamy, New Mexico. To Albuquerque and all points in Arizona and New Mexico west of Albuquerque, we have a differential in our favor of $47\frac{1}{2}$ cents over Colorado, and 76 cents over Kansas, on the Atchison, Topeka & Santa Fe. The advantage will be still greater to points west and south of El Paso on other roads. Therefore, it must be plain that we have a large and well protected market; the reliability of which can be better appreciated when it is understood that those rates are controlled by the Interstate Commerce Commission under the protection of the long and short haul clauses.

The high price which has been maintained for cement in this district, made necessary by the high freight rates, has prevented the introduction of cement as a building material to any great extent, and it is certain that the consumption will be greatly increased when cement is sold at a reasonable figure.

The Company will certainly be able to meet all competition, as the Colorado and Kansas mills pay \$1.38 freight into El Paso; cement shipped by water to Galveston pays 95c railroad freight in addition to all other costs, and our nearest competitor now pays 89c per barrel for freight into El Paso.



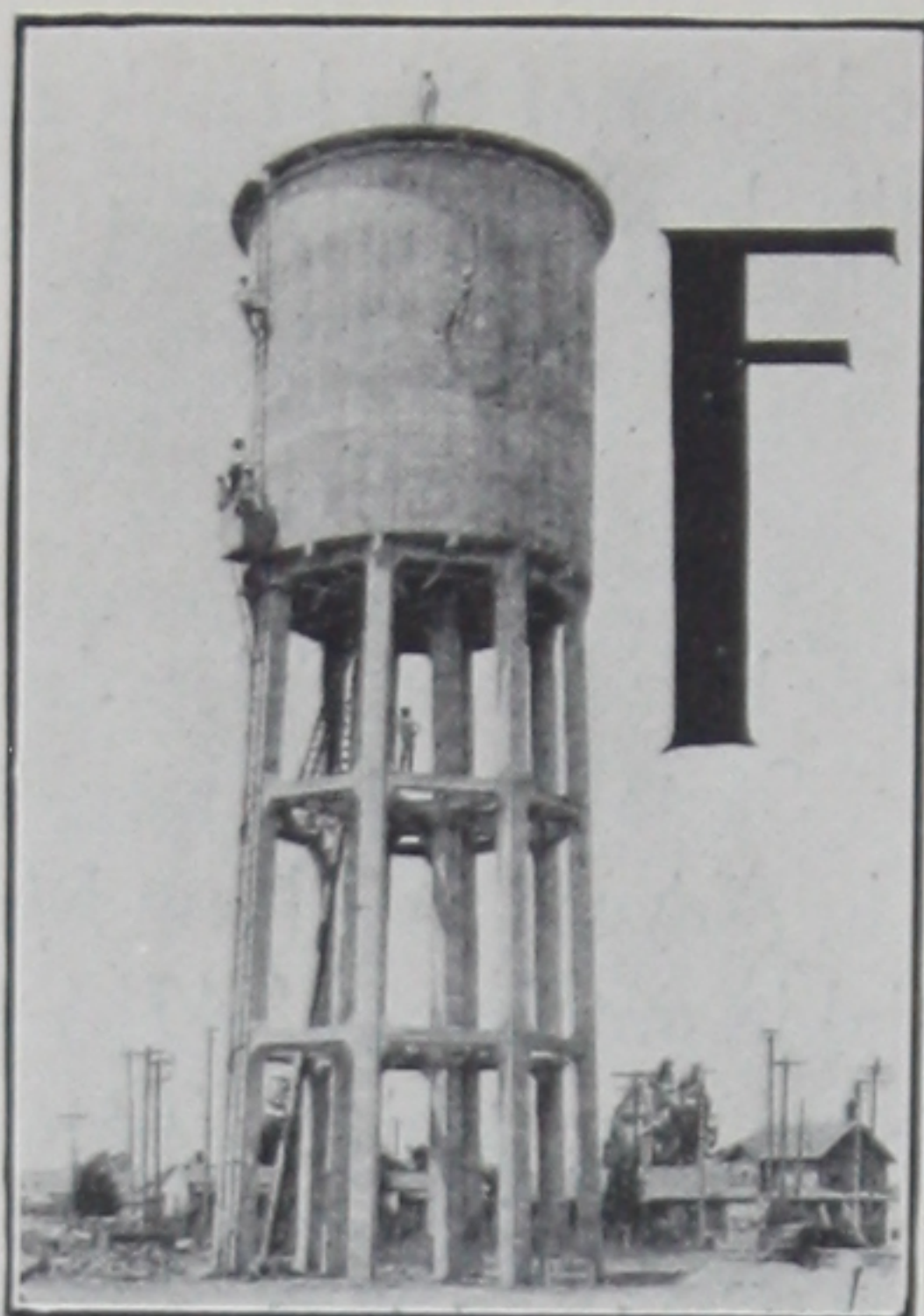
KERN RIVER POWER COMPANY'S
CONDUIT.

C. Leonardt, Contractor.

Length, fourteen miles. 60,000 barrels
of cement used in construction

EARNINGS.

Reinforced
Concrete
Water Tower,
Anaheim,
California.
Height 105
feet.
Built in
competition
with steel
at a saving
of \$4,000.
C. Leonardt,
Contractor.



FIGURING the production of the mill at a minimum annual total of 450,000 barrels and estimating that we could sell 200,000 barrels at \$2.00 in El Paso and territory tributary thereto and 250,000 in more distant parts of the home market; we could compute the following earnings:

200,000 bbls. at \$2.00 El Paso	
Territory	\$400,000
250,000 bbls at \$1.50 to more	
distant points	375,000
GROSS SALES	\$775,000
450,000 bbls at 75c total cost of manufacture and sales...	\$337,500
NET EARNINGS	\$437,500
Interest on \$1,100,000 Preferred Stock at 8%	\$ 88,000
BALANCE	\$349,500

It is evident to anyone posted in the cement business that the estimated prices are low enough to hold the territory as the competing mills will not contest the market on such a basis. A mill price of \$1.50 would compel the Kansas plants to make a mill price of 87c per barrel for Las Vegas and 74c per barrel for Albuquerque and Albuquerque west. A mill price of \$2.00 El Paso would make a mill price of \$1.11 for the east Texas mill which is our nearest competitor.

The above estimates would make an average net price of \$1.72. An average net price of \$1.36 per barrel would, however, make possible the payment of 8% on the entire issue of preferred and common stock and leave an annual surplus of \$100,000. Such a price should bring the common stock to par, and would compel the East Texas mill to sell in El Paso at actual mill cost, without any earning whatever on the invested capital.



ROUND HOUSE AT SAN BERNARDINO, CALIFORNIA.

All reinforced concrete construction. Built for the Santa Fe by C. Leonardt.

Architect A. Warren Gould, after viewing the ruins of San Francisco for the purpose of ascertaining the effect of the earthquake and fire on the various kinds of construction in the city, said:

"After a thorough inspection of the ruins of San Francisco and near-by cities and towns, I find that the lessons taught are most instructive.

"As a result of my examination and inspections I am convinced that there are two kinds of buildings that can be constructed to withstand an earthquake and resist fire to the extent that the structural portions will suffer no material damage. Such buildings to be constructed of the same material, viz: steel and concrete.

"Unfortunately for the purpose of study there were no tall reinforced concrete buildings in San Francisco or within the district affected by the earthquake. There were however, two buildings of reinforced concrete within the zone, one of them in the center of the burned district of San Francisco, and the other in Palo Alto. The former was a building of four stories, having girders, beams and floors of reinforced concrete of the Ransome System, and though it was subjected to the most intense heat created by the conflagration, I found the structure to be very little damaged, either by the earthquake preceding the fire or by the fire itself. The other building at Palo Alto was the central portion of the Junior Stanford museum, and though the wings on either side of this building, which were built of brick at a later

date, had their walls shaken down and the roofs fell in, the reinforced concrete buildings withstood the shock without a perceptible degree of damage.

"In the case of floor construction it has been demonstrated beyond question that reinforced concrete, when made of stone or gravel, is the best material for the purpose of resisting the forces of both earthquake and fire.

"In the examination of reinforced concrete floors in buildings that were not subjected to the flames, I found that the brick piers encasing the steel work collapsed and were wholly destroyed, the reinforced concrete was not damaged in the least degree.

"In the large steel structures remaining erect, where the fire-proofing was used, considerable damage was done to the steel work through this having happened. This was notably the case in the James Flood building, a structure in which no expense was spared to render it the best that could be erected. The columns in the first story of this structure, to a considerable number, have suffered by the heat to the extent that buckling has taken place. In my judgment, they will have to be removed and new columns substituted in order to render the building safe. Such a thing would not have happened had concrete been used.

"One ruin I examined had the steel encased in concrete, and though the building had been blown up by dynamite and the steel work thrown into the street, the concrete stuck tenaciously to the steel."

$$\begin{array}{rcl}
 3650 + 50x & = & 42x + 4200 \\
 \underline{42x} & & \underline{3650} \\
 8x & = & 550 \\
 & & \underline{46}
 \end{array}$$

$$\begin{array}{rcl}
 100 \times 37 + x \cdot 50 & = & 42 \\
 \hline
 100 + x
 \end{array}$$

$$\begin{array}{rcl}
 3700 + 50x & = & 4200 + 42x \\
 \underline{42x} & & \underline{3700} \\
 8 & = & 500 \\
 & & \underline{42}
 \end{array}$$

